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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/683,437	12/28/2001	Richard W. Carter	57761.000205	1935

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WASHINGTON, DC 20006-1109

EXAMINER

PATEL, RAJNIKANT B

ART UNIT	PAPER NUMBER
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2838

DATE MAILED: 09/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action SummaryApplication No.
09/683,437Applicant(s)
Carter et al.Examiner
Rajnikant PatelArt Unit
2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jul 14, 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 14 July 2003 have been fully considered but they are not persuasive. Because in remark page 5, applicant argue about D'Atre does disclose the sequential gating and the use of a current transformer. However applicant also indicated on page 4 of remark that column 6, line 27-35, discloses the circuit failure and abnormal operating condition fault detected by hardware implemented in the sensor assemblies which also include the current transformer. Also further in remark page 8, applicant argue that Casteel does not disclose the utilization of sequentially gating of each cell, examiner disagree column 1, line 45-55 of Casteel clearly indicating sequentially switching of switching device. In Jadric et al.'s reference (column 1, line 5-65) similar method of sequentially trigger thyristors.

Conclusion

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Fabianowski et al. (U.S. Patent # 4,942,494) or D'Atre et al. (U.S. Patent # 4,475,150)..

Fabianowski et al. discloses claimed invention a method for determining a shorting thyristor cell in a bridge that supplies load from a source, the bridge including a plurality of thyristor cells, the method including : sequentially gating each of the cells to a conducting state, so that only one cell is gated at a one time; providing one current transformer in the bridge; generating a current flow

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that passes through the bridge including the one cell that is gated; observing current in the at least one current transformer determine a short in one of the cells that is not gated; and determining a shorted cell based on the step of observing current in the at least one current transformer (Abstract, line 1-15). Similarly D'Atre et al. discloses claimed subject matters.(column 5, line 40-70 and column 6, line 1-60).

5. Claims 1 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Casteel et al. (U.S. Patent # 4,633,241) or Jadric et al. (U.S. Patent # 6,211,792 B1).. Casteel et al.'s discloses all the claimed subject matters.(column 1, line 40-70+). Similarly Jadric et al.'s figure 1, discloses claimed subject matters (column 3, line 35-70).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jadric et al. (U.S. Patent # 6,404,346 B1) in combination with Casteel et al. (U.S. Patent # 4,633,241).

Jadric et al. discloses claimed invention a method for determining a shorted thyristor cell in a bridge that supplies a load from a source. However Jadric et al. detect a fail thyristor by utilizing method of measuring an instantaneous power delivered to the load during a cycle of the input.

Jadric et al does not disclose utilization of technique for a gate sequencing. Casteel et al. teaches utilization of similar technique for a gate sequencing (column 1, line 40-70). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Jadric et al.'s method of detecting failed thyristor by utilizing a technique taught by Casteel et al. for the purpose of providing a efficient, low voltage, high current switching regulator circuit that have low input and output ripple currents.

8. Any inquiry concerning this communications or earlier from the examiner should be directed to Raj. Patel whose telephone number is (703) 305-7042. Any inquiry of a general nature or relating to the status of application should be directed to the Group receptionist whose telephone number is (703) 308-1782.



Rajnikant Patel

(Primary Examiner)